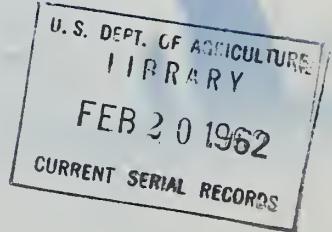


# **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



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**WATER SUPPLY OUTLOOK**  
and  
**FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS**  
for  
**NEVADA**

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE.  
and

NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES  
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above  
in cooperation with the Federal, State and private organizations listed  
on the last page of this report.

AS OF  
FEB. 1, 1962

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

## PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
<b>RIVER BASINS</b>			
COLORADO AND STATE OF UTAH			
COLORADO	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER AND OTHER AGENCIES
COLUMBIA	MONTHLY (JAN.-MAY)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
UPPER MISSOURI AND STATE OF MONTANA	MONTHLY (FEB.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
WEST-WILOE	OCT. 1, APR. 1, MAY 1	PORTLAND, OREGON	ALL COOPERATORS
<b>STATES</b>			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN. 15 - APR. 1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. AGR. EXP. STATION COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (FEB.-MAY)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	ORE. AGR. EXP. STATION OREGON STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

Copies of these various reports may be secured from:

Head, Water Supply Forecasting Section  
Soil Conservation Service  
P.O. Box 4170, Portland 8, Oregon

## PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	COMPTROLLER, WATER RIGHTS BR., DEPT. OF LANDS AND FORESTS, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, SACRAMENTO, CALIF.

**WATER SUPPLY OUTLOOK**  
and  
**FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS**  
**for**  
**NEVADA**

*Report prepared by*

**MANES BARTON**

*and*

**ROY E. MALSOR, JR.**

SOIL CONSERVATION SERVICE  
1479 WELLS AVENUE.....RENO, NEVADA

**FEBRUARY 8, 1962**

*Issued by*

**CHARLES W. CLEARY, JR.**

STATE CONSERVATIONIST  
SOIL CONSERVATION SERVICE  
RENO, NEVADA

**HUGH A. SHAMBERGER**

DIRECTOR  
DEPARTMENT OF CONSERVATION AND  
NATURAL RESOURCES  
CARSON CITY, NEVADA

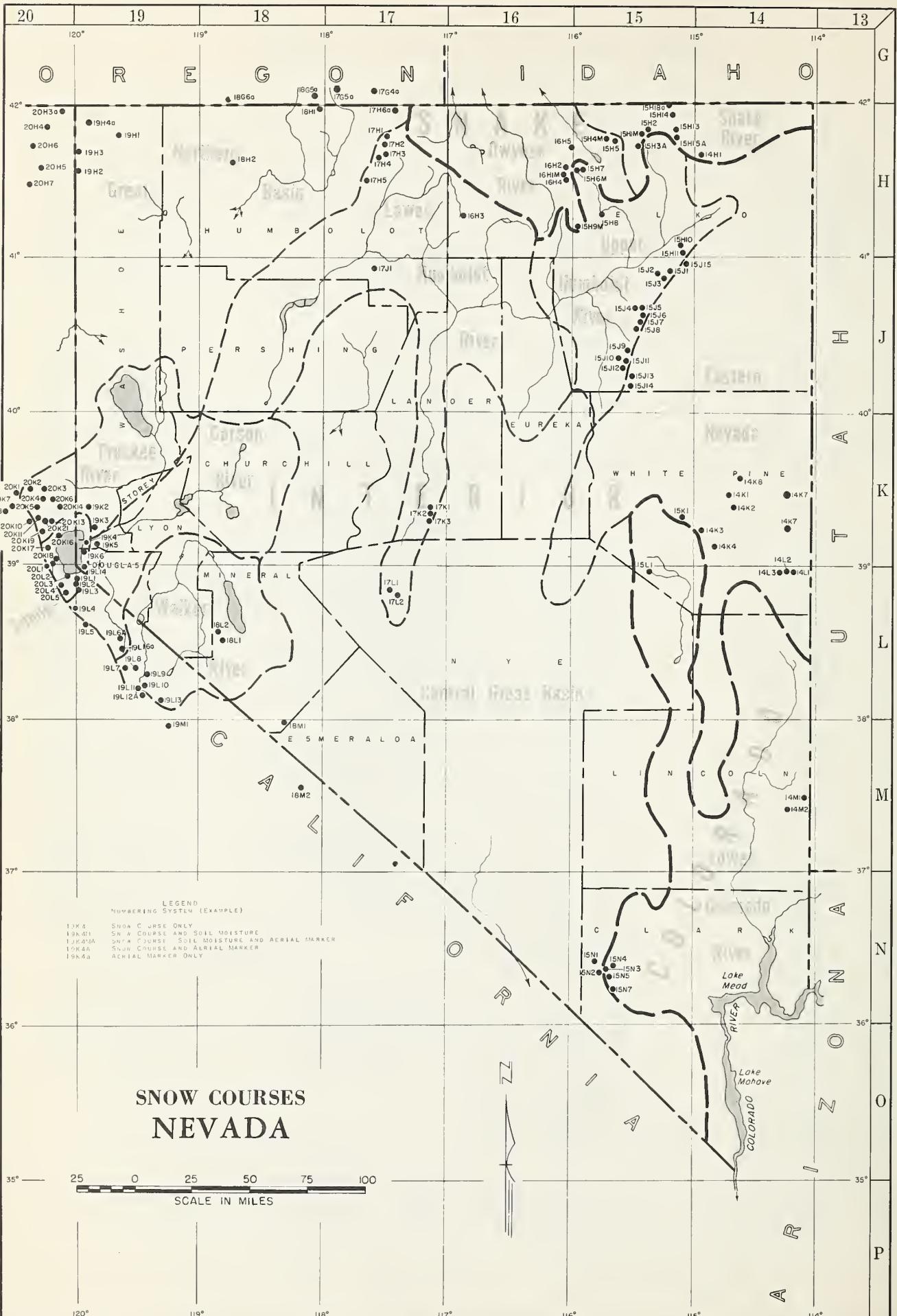


## INDEX TO NEVADA SNOW COURSES ( By Basins )

— LEGEND —  
NUMBERING SYSTEM (EXAMPLE)

19K4 SNOW COURSE ONLY  
19K4M SNOW COURSE AND SOIL MOISTURE  
19K4MA SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER  
19K4A SNOW COURSE AND AERIAL MARKER  
19K4a AERIAL MARKER ONLY

\* LOCATED ON ADJACENT WATERSHED



WATER SUPPLY OUTLOOK  
FOR NEVADA

February 1, 1962

In the Sierra, snow surveys in the Lake Tahoe and Truckee River basins show the snowpack to be 50 percent of the 1943-57 February 1 average. Assuming normal snowfall during the next two months and in view of Lake Tahoe's low elevation (6222.68), it is definite that the Floriston rate of 500 c.f.s. cannot be maintained. Even with normal precipitation, Lake Tahoe's elevation will not reach 6224.0. This amount of storage will not permit maintenance of required flows in the Truckee River.

Snow cover is slightly better than the last two years in the Carson and Walker River watersheds at 60 percent of the February 1 average. Currently, Lahontan Reservoir storage is 35,000 acre feet. This is 41,000 acre feet less than February 1, 1961. On February 1, Topaz and Bridgeport Reservoirs held 10,000 and 12,000 acre feet respectively. Combined, they hold 33 percent of average.

The West Walker near Coleville is forecast to flow 85,000 acre feet during April-July. This is 57 percent of the 1943-57 average. Last year the West Walker flowed 72,000 acre feet during April-July. Other streams in the Carson and Walker River watersheds are not forecast until March 1. However, preliminary analyses indicate that they should flow slightly better than last April-July.

In northern Nevada the Humboldt basin has a February 1 mountain snowpack which is 90 percent of average. Ruby Mountain snow cover is slightly above normal while the Independence Mountain snowpack is 80 percent of the February 1 average. Rye Patch Reservoir currently holds only 6,000 acre feet. Due to lack of low elevation snow and the cumulative effect of the past several years on ground water, base flow and soil moisture conditions the Humboldt at Palisade is forecast to flow 100,000 acre feet during April-July, which is 44 percent of average. Last year the Humboldt flowed 51,000 acre feet during April-July.

(over)

On the Owyhee watershed February 1 snow cover is 70 percent of average. Assuming normal snowfall during the next two months and normal spring precipitation, the Owyhee River is forecast to flow as follows:

Owyhee near Gold Creek	12,000 acre feet	44% (1943-57 ave.)
Owyhee near Owyhee	45,000 acre feet	52% (1943-57 ave.)

Wild Horse Reservoir held 8,000 acre feet on September 1, 1961. Current February 1 storage is not available due to reservoir ice conditions.

Southern Nevada February 1 snowpack based on a limited number of snow survey measurements, is much better than the last two years and is well above average.

Western Nevada ranchers should carefully plan this coming summer's operation in an effort to make maximum use of the anticipated limited water supply. The same applies to northern Nevada ranchers; although this summer's water supply may not be as short in some of the headwater portions of the Humboldt basin as it was in 1960 and 1961.

## NEVADA

## STATUS OF RESERVOIR STORAGE

FEBRUARY 1, 1962

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 AF)	USABLE STORAGE - 1000 ACRE FEET			FEBRUARY 1 15-YR.AVE. 1943-57
			1962	1961	1960	
Cwyhee	Wild Horse	33	a	13	9	12
Lower Humboldt	Rye Patch	179	6	8	22	95
Colorado	Mohave	1,810	1,680	1,696	1,780	1,427*
Colorado	Mead	27,217	17,901	18,978	19,283	17,464
Tahoe	Tahoe	732	0	92	242	461
Truckee	Boca	41	1	10	10	10
Carson	Lahontan	286	35	76	90	198
West Walker	Topaz	59	10	10	11	36
East Walker	Bridgeport	42	12	9	14	30

\* 1950-57

a Gage reading impossible due to ice on reservoir

## TOTAL RESERVOIR STORAGE

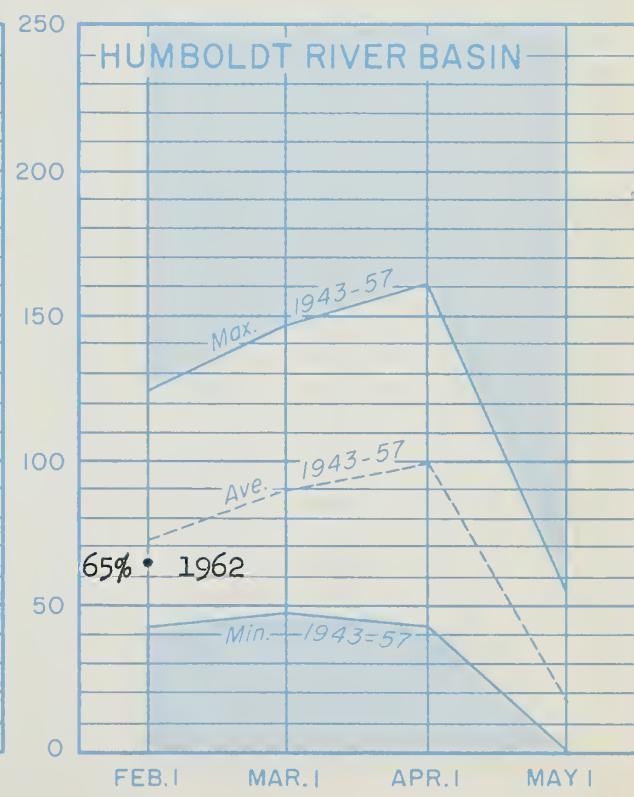
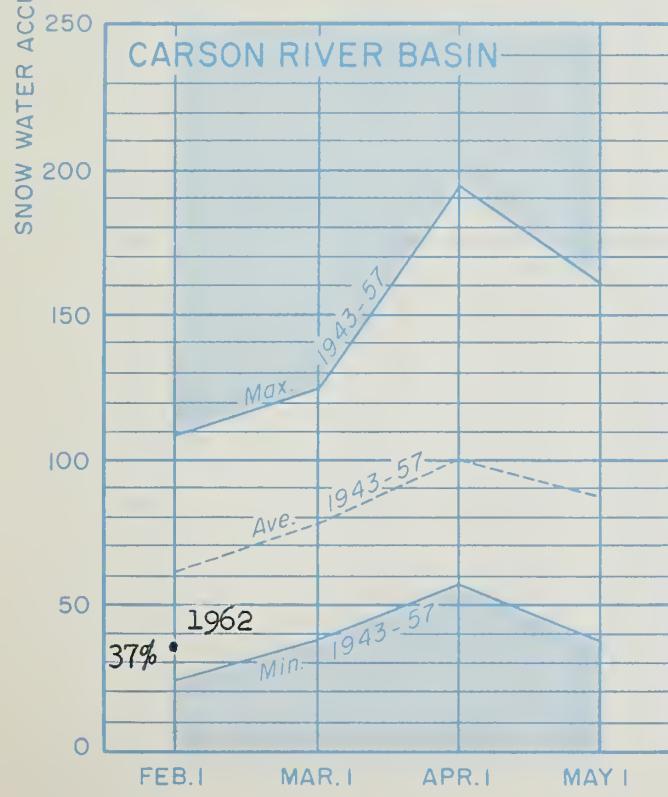
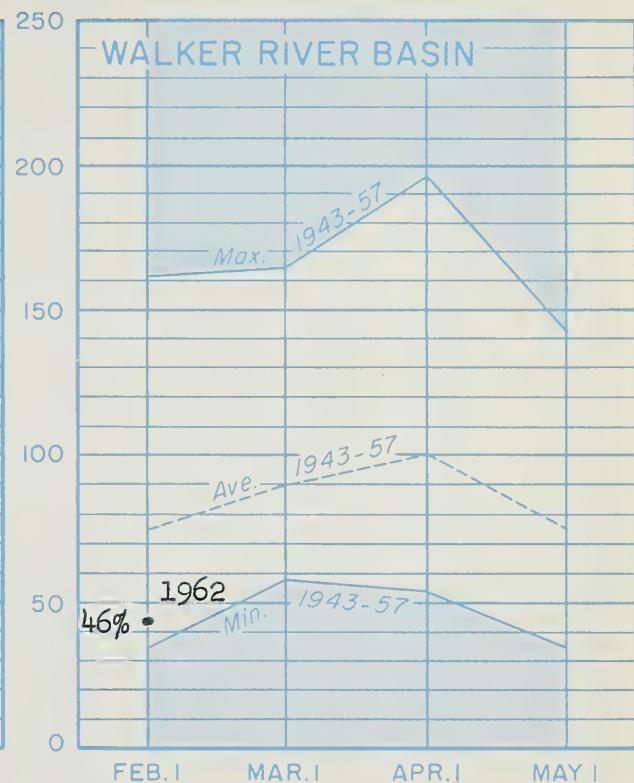
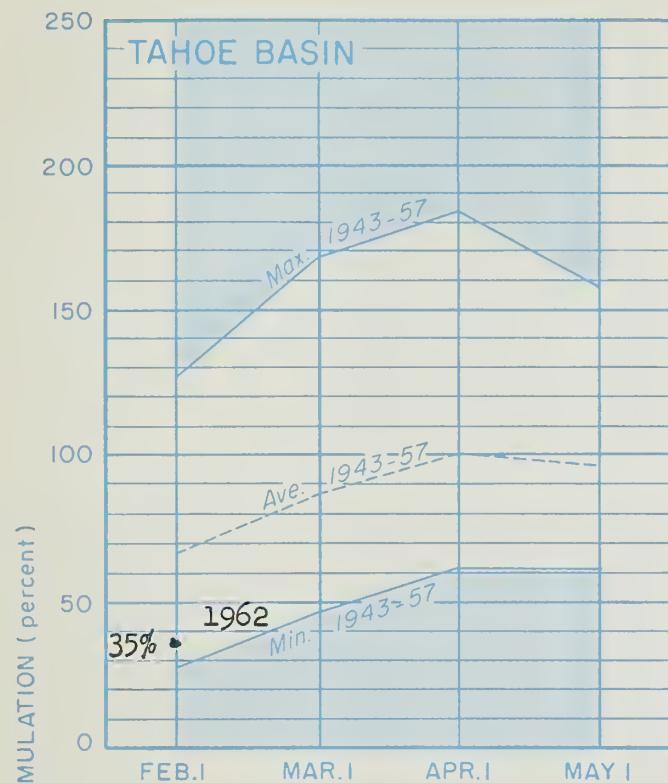
Developed from Rye Patch, Tahoe, Boca, Lahontan, Topaz and Bridgeport Reservoirs in 1000's Acre Feet

MONTH	1958-59	1959-60	1960-61	1961-62	AVERAGE 1943-57
October 1	964	480	248	57	720
January 1	869	358	193	49	775
February 1	926	389	205	64	830
March 1	1,016	484	240		864
April 1	1,042	579	268		906
May 1	1,011	608	281		945
TOTAL USABLE CAPACITY	1,339				

## 第二章 中国古典文学名著

# SNOW WATER ACCUMULATION in NEVADA by BASIN

February 1, 1962



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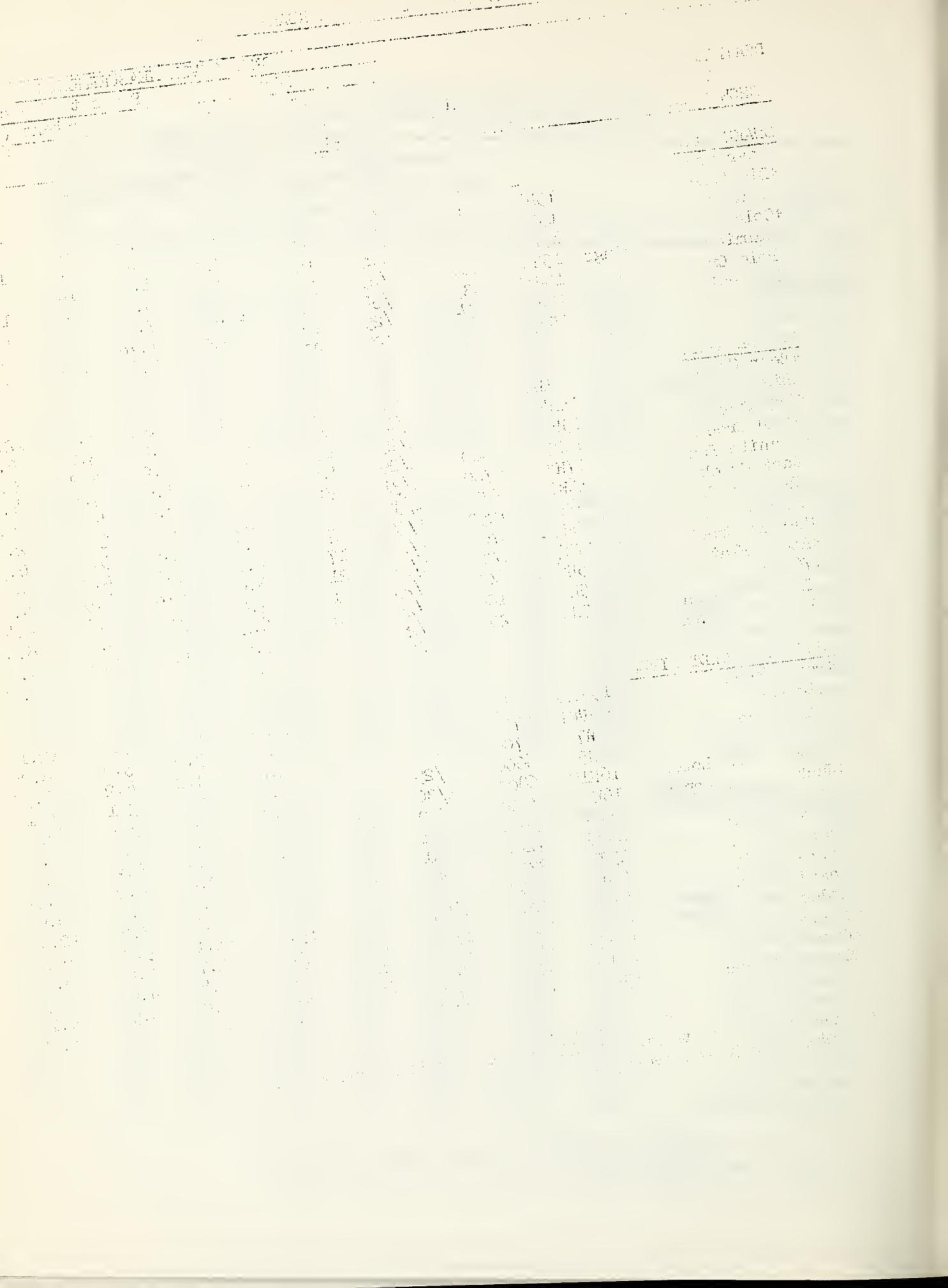
NEVADA SNOW SURVEYS FEBRUARY 1, 1962

DRAINAGE BASIN AND SNOW COURSE	Elev. (Ft.)	No.	SNOW COVER MEASUREMENTS						1943-57
			1962		: Past Record		Date of Survey:	Snow Depth: (In.)	
			Date	Snow	Water	Content		1961	
<b>SNAKE RIVER</b>									
Bear Creek	8145	15H1MA	1/24	51	14.3e	6.6e	7.5	12.1*	
+Big Bend	6700	15H4M	1/29	18	5.0	3.0	3.8	6.9*	
Goat Creek	8800	15H13	1/29	27	7.8e	6.6	6.8	10.6*	
+Gold Creek	6600	15H5	1/29	12	3.4	1.6	3.1	4.1*	
Hummingbird Springs	8870	15H15A	1/29	37	10.9e	5.0e	6.9	12.7*	
Pole Creek R. S.	8330	15H14	1/30	40	11.8	7.2	6.6	10.7*	
Red Point	7940	15H18a	1/29	18	5.3e	1.7e	--	--	
76-Creek	7100	15H3A	1/29	22	6.2e	4.8	4.0	8.3*	
<b>OWYHEE RIVER</b>									
+Bear Creek	8145	15H1MA	1/24	51	14.3e	6.6e	7.5	12.1*	
Big Bend	6700	15H4M	1/29	18	5.0	3.0	3.8	6.9*	
+Fry Canyon	6700	15H7	1/29	13	3.2	3.2	4.2	6.5*	
Gold Creek	6600	15H5	1/29	12	3.4	1.6	3.1	4.1*	
+Granite Peak	6700	17H4	1/31	20	5.6	3.6	5.8	8.1*	
Jack Creek, Lower	6800	16H1M	1/30	10	2.9	1.0	3.1	2.8*	
Jack Creek, Upper	7250	16H2	1/30	27	8.1	3.0	5.8	6.5*	
Laurel Draw	6700	16H5	1/29	17	4.0	3.0	4.8	--	
+Martin Creek	6700	17H3	1/31	21	6.0	4.2	4.9	5.7*	
+Rodeo Flat	6800	15H6M	1/29	11	3.0	2.7	4.0	6.4*	
+76-Creek	7100	15H3A	1/29	22	6.2e	4.8	4.0	8.3*	
Taylor Canyon	6200	15H9M	1/29	10	2.5	1.0	3.9	4.1*	
+Tremewan Ranch	5700	15H8	1/29	6	0.9	T	1.8	1.9*	
<b>UPPER HUMBOLDT RIVER</b>									
+Bear Creek	8145	15H1MA	1/24	51	14.3e	6.6e	7.5	12.1*	
+Big Bend	6700	15H4M	1/29	18	5.0	3.0	3.8	6.9*	
Fry Canyon	6700	15H7	1/29	13	3.2	3.2	4.2	6.5*	
+Gold Creek	6600	15H5	1/29	12	3.4	1.6	3.1	4.1*	
+Jack Creek, Lower	6800	16H1M	1/30	10	2.9	1.0	3.1	2.8*	
+Jack Creek, Upper	7250	16H2	1/30	27	8.1	3.0	5.8	6.5*	
Lamoille #1	7100	15J4	1/31	28	7.5	4.4	6.2	6.6*	
Lamoille #2	7200	15J5	1/31	25	7.2	3.4	6.2	6.9*	
Lamoille #3	7700	15J6	1/31	30	8.7	4.6	6.7	8.9*	
Lamoille #4	8000	15J7	1/31	42	13.0	7.4	7.0	12.9*	
Lamoille #5	8700	15J8	1/31	58	19.6	11.1	9.2	19.2*	
Rodeo Flat	6800	15H6M	1/29	11	3.0	2.7	4.0	6.4*	
+76-Creek	7100	15H3A	1/29	22	6.2e	4.8	4.0	8.3*	
+Taylor Canyon	6200	15H9M	1/29	10	2.5	1.0	3.9	4.1*	
Tremewan Ranch	5700	15H8	1/29	6	0.9	T	1.8	1.9*	

\* Located on adjacent drainage.

e Aerial snow depth gage reading; water content estimated.

\* 1943-57 adjusted average.



NEVADA SNOW SURVEYS FEBRUARY 1, 1962

DRAINAGE BASIN AND SNOW COURSE	No.	Elev. (Ft.)	SNOW COVER MEASUREMENTS					
			1962		Past Record			
			Date of Survey:	Snow Depth: (In.)	Water Content: (In.)	Water Content (In.)	1961	1960
<b>LOWER HUMBOLDT RIVER</b>								
Granite Peak	17H4	7800	1/31	20	5.6	3.6	5.8	8.1*
Martin Creek	17H3	6700	1/31	21	6.0	4.2	4.9	5.7*
Lower Corral	17L2	7500	2/1	9	2.5	0.0	--	--
Upper Corral	17L1	8500	2/1	18	4.3	1.2	--	--
<b>QUINN RIVER</b>								
Denio Creek	18G6a	6000	1/25	2	0.8e	0.0e	1.4e	--
Louse Canyon	17G4a	6440	1/26	3	0.8e	0.6e	3.0e	--
Oregon Canyon	17G5a	7240	1/26	14	3.2e	2.4e	4.4e	--
Quinn Ridge	17H6a	6300	1/26	3	0.3e	0.0e	3.7e	--
Trout Creek	18G3a	7800	1/26	12	3.4e	3.6e	2.8e	--
<b>LOWER COLORADO RIVER</b>								
Mathew Canyon	14M1	6000	1/26	32	9.1	1.4	4.2	2.6*
Pine Canyon	14M2	6200	1/27	30	10.3	1.6	4.2	2.9*
<b>TAHOE</b>								
Daggetts Pass	19L14	7350	1/30	12	3.8	4.4	3.5	10.1*
Echo Summit	20L5	7500	1/31	47	15.9b	10.6	11.4	26.6
Freel Bench	19L2	7300	1/31	16	5.2	4.5	4.6	10.0*
Glenbrook #2	19K6	6900	1/30	16	4.2	4.8	4.4	9.1*
Hagans Meadow	19L3	8000	1/31	22	6.8	6.7	6.0	12.2*
Marlette Lake	19K4	8000	1/30	23	6.9	8.8	6.2	14.1*
Richardsons #2	20L3	6500	1/30	30	7.6	7.1	7.4	13.3*
+Squaw Valley #2	20K19	7500	1/31	59	19.9	15.2	26.6	--
Tahoe City	20K16	6250	2/1	13	3.8	0.0	6.3	9.6*
Upper Truckee	19L1	6400	1/31	15	5.0	3.1	3.8	9.5*
Ward Creek	20K17	7000	2/1	49	17.8	18.5	17.9	26.9*

+ Located on adjacent drainage.

b Water content partly estimated.

e Aerial snow depth gage reading; water content estimated.

\* 1943-57 adjusted average.



NEVADA SNOW SURVEYS FEBRUARY 1, 1962

DRAINAGE BASIN AND SNOW COURSE	No.	Elev. (Ft.)	SNOW COVER MEASUREMENTS					
			1962		: Past Record			
			Date of Survey:	Snow Depth: (In.)	Water Content: (In.)	Water Content 1961	1960	Water Content (In.) 1943-57 Ave.
<u>TRUCKEE RIVER</u>								
Boca #2	20K14	5900	2/2	11	2.6	T	4.3	6.5*
Donner Park #2	20K21	6000	2/1	33	9.1	4.9	9.4	--
+Donner Summit	20K10	6900	1/29	43	15.1	13.3	21.0	25.7
+Fordyce Lake	20K7	6500	1/30	53	19.5	13.2	18.0	25.3*
+Furnace Flat	20K8	6600	1/30	60	19.5	17.0	23.9	28.8*
Sage Hen Creek	20K6	6500	2/2	26	8.0	6.4b	9.9	13.4*
Squaw Valley #2	20K19	7500	1/31	59	19.9	15.2	26.6	--
Tahoe City	20K16	6250	2/1	13	3.8	0.0	6.3	9.6*
Truckee #2	20K13	6400	2/2	23	7.0	5.4	9.1	12.9*
+Ward Creek	20K17	7000	2/1	49	17.8	18.5	17.9	26.9*
<u>CARSON RIVER</u>								
Carson Pass (Upper)	19L4	8600	1/26	45	13.6	7.1	9.4	22.4
Poison Flat	19L6A	7900	2/5	20	5.8e	7.2e	--	--
Upper Fish Valley	19L16a	8050	2/5	20	5.8e	7.2e	--	--
<u>WALKER RIVER</u>								
Center Mountain	19L12A	9400	2/5	46	13.3e	--	--	--
Mt. Grant	18L2	9000	1/30	14	2.4	--	--	--
Sonora Pass	19L7	8800	1/29	36	10.4	9.5	5.9	14.5*
Tioga Pass	19M1	9900	1/27	38	10.9	9.2	6.3	18.6*
Virginia Lakes	19L13	9500	1/29	31	8.7	8.6	4.2	11.8*
<u>WHITE MOUNTAINS</u>								
Campito Mtn.	18M2	10200	2/1	9	2.5	4.3	T	--
Montgomery Pass	18M1	7100	1/29	7	1.4	T	1.2	--
Pinchot Creek	18M3a	9300	2/5	T	T	New course		
Piute Pass	18M4a	11700	2/5	T	T	New course		
<u>NORTHERN GREAT BASIN (Surprise Valley)</u>								
Barber Creek	20H2	6500	1/31	28	7.0	5.1	4.1	--
Cedar Pass	20H6	7100	1/31	28	6.0	7.2	8.4	11.5*
Dismal Swamp	20H3a	7000	1/24	33	9.9e	8.1e	5.5e	--
49-Mountain	19H3	6000	1/30	12	3.1	1.2	4.0	--
Hays Canyon	19H2	6400	1/31	8	2.5	T	2.7	--
Little Bally Mtn.	19H4a	6000	1/25	12	3.6e	T e	--	--
Reservation Creek	20H1	5900	1/30	31	8.3	4.6	5.3	--

+ Located on adjacent drainage.

b Timber cover destroyed by Donner Ridge fire.

e Aerial snow depth gage reading; water content estimated.

\* 1943-57 adjusted average.



## Agencies Cooperating in Collecting Data Contained in this Bulletin

### FEDERAL

Soil Conservation Service  
Forest Service  
Geological Survey  
Bureau of Reclamation  
Fish and Wildlife Service  
Army  
Navy  
Weather Bureau  
Agricultural Research Service

### STATE

Nevada Department of Conservation & Natural Resources  
Division of Water Resources  
Nevada State Forester-Firewarden  
Nevada Cooperative Snow Surveys  
Colorado River Commission of Nevada  
California Cooperative Snow Surveys  
California Department of Water Resources  
Oregon Cooperative Snow Surveys  
Nevada Association of Soil Conservation Districts  
University of Nevada

### PRIVATE

Walker River Irrigation District  
Amalgamated Sugar Company  
Owyhee Project North Board of Control  
Owyhee Project South Board of Control  
Virginia City Water Company  
Kennebott Copper Corporation  
Squaw Valley Development Company  
Pacific Gas & Electric Company  
Nevada Irrigation District  
Sierra Pacific Power Company  
Washoe County Water Conservation District  
Truckee-Carson Irrigation District  
Pershing County Water Conservation District

Other organizations and individuals furnish valuable  
information for the snow survey reports. Their  
Cooperation is gratefully acknowledged.

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SOIL CONSERVATION SERVICE  
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generation, navigation,  
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with the Snow Survey”*